



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/054,162      | 01/18/2002  | Siu Choon Ng         | 4810-62169          | 5351             |

7590 10/14/2004

KLARQUIST SPARKMAN, LLP  
One World Trade Center  
Suite 1600  
121 S. W. Salmon Street  
Portland, OR 97204

EXAMINER

THERKORN, ERNEST G

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1723

DATE MAILED: 10/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/054,162

Applicant(s)

NG ET AL.

Examiner

Ernest G. Therkorn

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 35-37, 45 and 48-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 35-37, 45 and 48-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 35-37, 45, and 48-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lincoln (U.S. Patent No. 5,324,750) in view of Ng (U.S. Patent No. 6,017,458) and either Armstrong (Anal. Chem. 1990, 62, 1610-1615) or Hargitai (Journal of Chromatography, 628 (1993), pages 11-22). At best, the claims differ from Lincoln (U.S. Patent No. 5,324,750) in the clarity of reciting a saccharide that is fully functionalized and a moiety that is able to bind to a support. Armstrong (Anal. Chem. 1990, 62, 1610-1615) (page 1610, column 2, line 15-page 1611, column 1, line 8 and the paragraph under "Results and Discussion" on page 1611, column 2) discloses it is desirable to maximize the functionalization of cyclodextrin because that increases its ability to resolve enantiomers under normal phase conditions. Hargitai (Journal of Chromatography, 628 (1993), pages 11-22) (Abstract and page 22, lines 6-11) discloses that maximizing functionalization was the most important factor for enantioselectivity. Ng (U.S. Patent No. 6,017,458) (column 2, lines 10-19; column 2, line 60-column 3, line 6; and column 3, lines 41-51) discloses forming a silane derivative results in a product that is universally applicable to HPLC, LC, TLC, and CLE and permits immobilization on a support material surface. It would have been obvious to fully functionalize the cyclodextrin in Lincoln (U.S. Patent No. 5,324,750) either because Armstrong (Anal. Chem. 1990, 62, 1610-1615) (page 1610, column 2, line 15-page

Art Unit: 1723

1611, column 1, line 8 and the paragraph under "Results and Discussion" on page 1611, column 2) discloses it is desirable to maximize the functionalization of cyclodextrin because that increases its ability to resolve enantiomers under normal phase conditions or because Hargitai (Journal of Chromatography, 628 (1993), pages 11-22) (Abstract and page 22, lines 6-11) discloses that maximizing functionalization was the most important factor for enantioselectivity. It would have been obvious to form a silane derivative for binding in Lincoln (U.S. Patent No. 5,324,750) because Ng (U.S. Patent No. 6,017,458) (column 2, lines 10-19; column 2, line 60-column 3, line 6; and column 3, lines 41-51) discloses forming a silane derivative results in a product that is universally applicable to HPLC, LC, TLC, and CLE and permits immobilization on a support material surface.

The remarks have been considered but are not deemed pertinent in view of the new grounds of rejection.

Any inquiry concerning this communication should be directed to E. Therkorn at telephone number (571) 272-1149. The official fax number is (703) 872-9306.

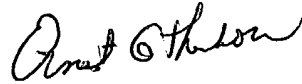
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Application/Control Number: 10/054,162

Page 4

Art Unit: 1723

Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Ernest G. Therkorn".

**Ernest G. Therkorn**  
**Primary Examiner**  
**Art Unit 1723**

EGT  
October 4, 2004